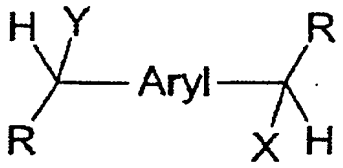
What is claimed is:

1. A process for preparing poly(arylenevinylenes) from bis(halomethyl)arylenes or halomethylsulfinylmethylarylenes by base-induced dehydrohalogenation, characterized in that the reaction is carried out in the presence of 0.1-80 mol% of one or more compounds of the formula (I):



Formula (I)

where the symbols are defined as follows:

Aryl is the same or different at each instance and is a bivalent aromatic or heteroaromatic ring system which has from 2 to 40 carbon atoms and may be substituted by R^1 radicals or else be unsubstituted, or an R^1-substituted or unsubstituted stilbenylene unit; the two substituents CHXR and CHYR are arranged in such a way that there is an even number of aromatic atoms between them; the aryl and heteroaryl systems may also be part of a larger fused aromatic ring system; the possible substituents R^1 may potentially be situated at any free position;

R is the same or different at each instance and is an alkyl chain which has from 1 to 40 carbon atoms and may be straight-chain, branched or cyclic, and may also be substituted by one or more R^1 radicals or be unsubstituted, in which one or more nonadjacent carbon atoms may also be replaced by $-CR^2=CR^2-$, $-C\equiv C-$, $-NR^2-$, $-O-$, $-S-$, $-CO-$, $-CO-O-$, $-CONR^2-$, $-O-CO-O-$, and one or more hydrogen atoms may also be replaced by fluorine, an aromatic or heteroaromatic ring system which has from 2 to 40 carbon atoms and may be substituted by R^1 or be unsubstituted, an R^1-substituted or unsubstituted

stilbenyl or tolanyl unit, $-Si(R^2)_3$, $-N(R^2)_2$, $-OR^2$ or a combination of these systems; the aryl and heteroaryl systems may also be part of a larger fused aromatic ring system; the possible substituents may potentially be situated at any free position;

X is the same or different at each instance and is Cl, Br, I, trifluoromethanesulfonate or arylsulfonate;

Y is the same or different at each instance and is Cl, Br, I, trifluoromethanesulfonate, arylsulfonate, $-S(O)-R^2$ or R^1;

R^1 is the same or different at each instance and is a straight-chain, branched or cyclic alkyl chain having from 1 to 40 carbon atoms, in which one or more nonadjacent carbon atoms may also be replaced by $-CR^2=CR^2-$, $-C\equiv C-$, $-NR^2-$, $-O-$, $-S-$, $-CO-$, $-CO-O-$, $-CONR^2-$, $-O-CO-O-$, and one or more hydrogen atoms may be replaced by fluorine, an aromatic or heteroaromatic ring system which has from 2 to 40 carbon atoms and may also be substituted by one or more nonaromatic R^1 radicals, a substituted or unsubstituted vinyl group or Cl, F, CN, $N(R^2)_2$, $B(R^2)_2$; the aryl and heteroaryl systems may also be part of a larger fused aromatic ring system; the possible substituents may potentially be situated at any free position; two or more R^1 radicals together may also form a ring system;

R^2 is the same or different at each instance and is H, a straight-chain, branched or cyclic alkyl chain having 1 to 22 carbon atoms, in which one or more nonadjacent carbon atoms may also be replaced by $-O-$, $-S-$, $-CO-O-$, $-O-CO-O-$, and one or more hydrogen atoms may also be replaced by fluorine, an aryl or heteroaryl system which has from 2 to 40 carbon atoms and may also be substituted by one or more nonaromatic R^1.

2. The process as claimed in claim 1, characterized in that the halogen atoms in the bis(halomethyl)arylene monomers or the halomethylsulfinylmethylarylene monomers are the same or different and are each Cl, Br or I.

3. The process as claimed in claim 1 and/or 2, characterized in that the polymerization is carried out in an ether, an aromatic hydrocarbon, a chlorinated aromatic compound or a mixture of these solvents if bis(halomethyl)arylene monomers are used, or that the polymerization is carried out in an ether, an aromatic hydrocarbon, a chlorinated aromatic or nonaromatic compound, DMSO, an alcohol or a mixture of these solvents if halomethylsulfinylmethylarylene monomers are used.

4. The process as claimed in one or more of claims 1 to 3, characterized in that the reaction is carried out in a concentration range from 0.005 to 5 mol/l (monomer/solution volume).

5. The process as claimed in one or more of claims 1 to 4, characterized in that the bases used are alkali metal hydroxides, alkali metal alkoxides or organic amines or amides, or else alkali metal hydrides or metal organyls, provided that the solvents used are not DMSO, alcohols or chlorinated solvents.

6. The process as claimed in one or more of claims 1 to 5, characterized in that the amount of the base used is in the range from 2 to 10 equivalents (based on one equivalent of monomer) if the monomers used are bis(halomethyl)aryl compounds, and in the range from 1 to 10 equivalents (based on one equivalent of monomer) if the monomers used are halomethylsulfinylmethylaryl compounds.

7. The process as claimed in one or more of claims 1 to 6, characterized in that between 2 and 40 mol% (based on the total amount of the remaining monomers) of one or more compounds of the formula (I) is added.

8. The process as claimed in one or more of claims 1 to 7, characterized in that, for the compound of the formula (I):

Aryl is the same or different at each instance and is a bivalent aromatic ring system which has from 2 to 40 carbon atoms and may be substituted by up to 4 substituents R^1 or else be unsubstituted, or an R^1-substituted or unsubstituted stilbenylene unit; the two substituents CHXR and CHYR are arranged in such a way that there is an even number of aromatic atoms between them; the aryl system may also be part of a larger fused aromatic ring system; the possible substituents R^1 may potentially be situated at any free position;

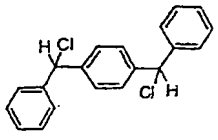
R is as defined in claim 1;

X is the same or different at each instance and is Cl, Br, I;

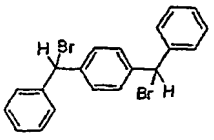
Y is as defined in claim 1;

R^1, R^2 are each as defined in claim 1.

9. The process as claimed in claim 8, characterized in that the compound of the formula (I) is selected from the formulae (II) to (XXV) which may be substituted or unsubstituted:



Formula (II)



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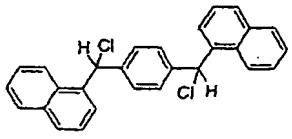
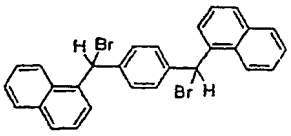
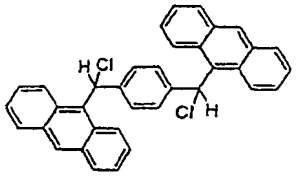


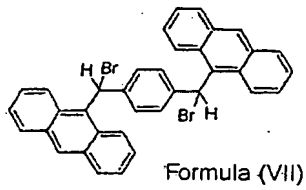
Formula (IV)



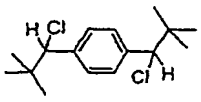
Formula (V)



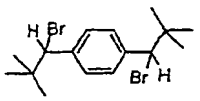
Formula (VI)



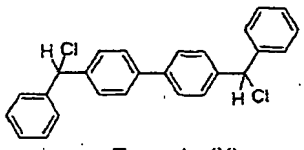
Formula (VII)



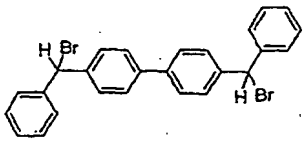
Formula (VIII)



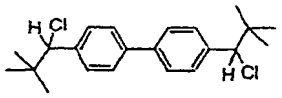
Formula (IX)



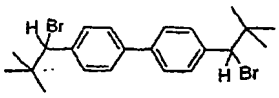
Formula (X)



Formula (XI)



Formula (XII)



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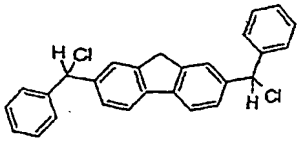

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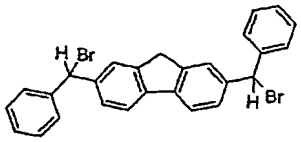

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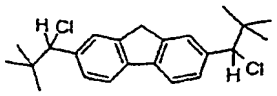
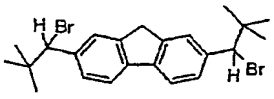
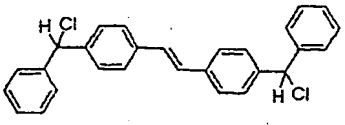


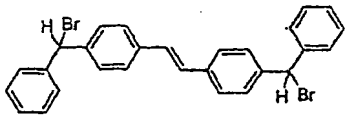
Formula (XVI)



Formula (XVII)



Formula (XVIII)



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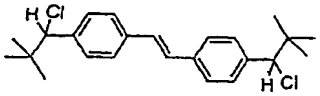
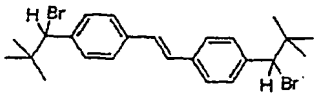
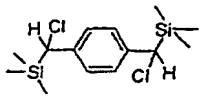


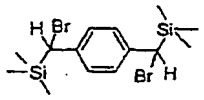
Formula (XX)



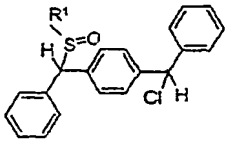
Formula (XXI)



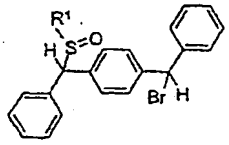
Formula (XXII)



Formula (XXIII)



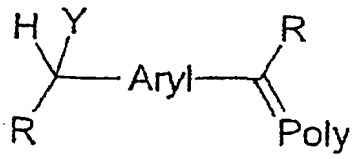
Formula (XXIV)



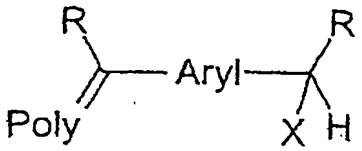
Formula (XXV)

10. The process as claimed in one or more of claims 1 to 9, characterized in that the poly(aryleneethylene) precursor polymer which is obtained when the monomers used are halomethylsulfinylmethylaryl compounds are converted by thermal treatment to the conjugated poly(arylenevinylene).

11. Poly(arylenevinylenes) containing at least 0.1 mol% of units of the formula (Ia) and/or (Ib)



Formula (1a)



Formula (Ib)

where aryl, R, X, Y, R^1 and R^2 are each defined as described under claim 1, and

poly represents a bond to a poly(arylenevinylene) main chain.

12. Poly(arylenevinylenes) as claimed in claim 11, characterized in that the poly radical represents one or more poly(arylenevinylenes).

13. Poly(arylenevinylenes) as claimed in claim 11 and/or 12, characterized in that the poly radical is a poly(arylenevinylene) homo- or copolymer which may optionally be substituted.

14. The use of poly(arylenevinylenes) as claimed in claim 11, 12 and/or 13 as an electroluminescent material in polymeric light-emitting diodes (PLEDs), in organic integrated circuits (O-ICs), in organic field-effect transistors (OFETs), in organic thin-film transistors (OTFTs), in photorefractive elements, in organic solar cells (O-SCs), organic light-emitting diodes (OLEDs) or organic laser diodes (O-laser).

15. An electronic component comprising cathode, anode and one or more active layers, at least one of these active layers comprising one or more poly(arylenevinylenes) as claimed in claim 11, 12 and/or 13.

16. The electronic component as claimed in claim 15, characterized in that it comprises polymeric light-emitting diodes (PLEDs), organic integrated circuits (O-ICs), organic field-effect transistors (OFETs), organic thin-film transistors (OTFTs), organic solar

cells (O-SCs), organic photorefractive elements, organic light-emitting diodes (OLEDs) or organic laser diodes (O-laser).